

AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth in the following listing of claims, which replaces all prior versions and listings of the claims.

1-17. (Canceled)

18. (Currently Amended) A catheter for the uniform delivery of fluid throughout an anatomical region, comprising:

an elongated support constructed from a first material; and

a tubular, non-porous membrane that is wrapped around an entire circumference of a proximal portion of said support, wherein said non-porous membrane is a separate member from said support;

a tubular, porous membrane that is wrapped around an entire circumference of said support, wherein said porous membrane covers a portion of the support distal of said non-porous membrane, wherein said membrane is a separate member from said non-porous membrane and said support and is constructed from a second material that is different from said first material, and wherein said non-porous membrane and said porous membrane have a substantially similar outer size and shape;

said support being configured so that at least one lumen is formed between said support and said-membrane non-porous and porous membranes, wherein a proximal end of said at least one lumen is open such that fluid introduced into a proximal end of said catheter enters said at least one lumen, flows toward a distal end of said catheter and saturates said second material of said porous membrane, wherein the fluid then exits said catheter through said porous membrane at a rate determined by a rate of diffusion of said fluid through said porous membrane.

19. (Original) The catheter of Claim 18, wherein said porous membrane is configured so that a fluid flowing within said lumen will pass through a portion of said membrane at a substantially uniform rate throughout the surface area of said portion of said membrane.

20. (Original) The catheter of Claim 18, wherein the surface of said support includes interruptions such that when said porous membrane is wrapped around said support, said membrane forms a portion of the wall of said lumen.

21. (Original) The catheter of Claim 20, wherein said interruptions comprise a plurality of ribs extending radially from an axial center portion of said support, said ribs also extending longitudinally along a length of said support, said porous membrane wrapped around the outer edges of said ribs.

22. (Canceled)

23. (Original) The catheter of Claim 18, wherein a first of said lumens is separated from a second of said lumens, so that a first fluid flowing within said first lumen and a second fluid flowing within said second lumen will remain separated for as long as said first and second fluids remain within said catheter.

24. (Original) The catheter of Claim 23, wherein each of said lumens is separated so that a first fluid flowing within any of said lumens and a second fluid flowing within any other of said lumens will remain separated for as long as said first and second fluids remain within said catheter.

25. (Original) The catheter of Claim 18, wherein said support and porous membrane are substantially flexible.

26. (Original) The catheter of Claim 21, wherein said axial center portion contains an axial guide wire lumen adapted to slidably receive a guide wire.

27. (Original) The catheter of Claim 21, wherein said porous membrane is secured to the outer edges of said ribs.

28. (Original) The catheter of Claim 18, wherein the average pore diameter of said porous membrane is less than 0.23 microns.

29-72. (Canceled)

73. (Currently Amended) A catheter for the uniform delivery of fluid throughout an anatomical region, comprising:

an elongated support; and

a non-porous membrane that is wrapped around an entire circumference of a proximal portion of said support, wherein said non-porous membrane is a separate member from said support;

a porous membrane that is wrapped around an entire circumference of a portion of said support distal of said non-porous membrane, wherein said porous membrane is a separate member from said non-porous membrane and said support-and;

wherein said support comprises at least three ribs extending radially from an axial center portion of said support, said ribs also extending longitudinally along a length of said support, said non-porous membrane and said porous membrane wrapped around the outer edges of said ribs so that at least three lumens are formed between said support and said membrane-non-porous and said porous membranes and wherein an inner surface of said ~~porous membrane is non-porous and~~ said porous membranes are in contact with said outer edges of said ribs longitudinally along said length of said support, wherein a proximal end of said at least three lumens are open such that fluid introduced into a proximal end of said catheter is divided among said at least three lumens-lumens, wherein said at least three lumens are closed at a distal end by a dome-shaped end portion that is integrally formed with said support, and the fluid flows toward a distal end of said catheter and saturates said porous membrane, wherein the fluid then exits said catheter through an entire length of said porous membrane at a rate determined by a rate of diffusion of said fluid through said porous membrane.

74. (Previously Presented) The catheter of Claim 73, wherein said porous membrane is configured so that a fluid flowing within said at least three lumens will pass through a portion of said membrane at a substantially uniform rate throughout the surface area of said portion of said membrane.

75. (Canceled)

76. (Previously Presented) The catheter of Claim 73, wherein a first of said lumens is separated from a second of said lumens, so that a first fluid flowing within said first lumen and a second fluid flowing within said second lumen will remain separated for as long as said first and second fluids remain within said catheter.

77. (Previously Presented) The catheter of Claim 76, wherein each of said lumens is separated so that a first fluid flowing within any of said lumens and a second fluid flowing within any other of said lumens will remain separated for as long as said first and second fluids remain within said catheter.

78. (Previously Presented) The catheter of Claim 73, wherein said support and porous membrane are substantially flexible.

79. (Previously Presented) The catheter of Claim 73, wherein said axial center portion contains an axial guide wire lumen adapted to slidably receive a guide wire.

80. (Previously Presented) The catheter of Claim 73, wherein said porous membrane is secured to the outer edges of said ribs.

81. (Previously Presented) The catheter of Claim 73, wherein the average pore diameter of said porous membrane is less than 0.23 microns.

82. (Currently Amended) A catheter for delivery of fluid, comprising:

an elongated support comprising a plurality of ribs, each of said ribs projecting in an axial direction from a center of said support;

a tubular non-porous membrane that completely surrounds a proximal portion of a length of said support, wherein said non-porous membrane is a separate member from said support and tightly surrounds said support such that an inner surface of said non-porous membrane contacts an outer edge surface of each of said plurality of ribs along said length of said support so that a space between said non-porous membrane and each adjacent pair of said ribs defines a proximal portion of a lumen;

a porous tubular membrane that completely surrounds ~~at least a portion of a portion of said~~ length of said support distal of said non-porous membrane, wherein said tubular membrane is a separate member from said support and tightly surrounds said support such that an inner surface of said tubular membrane contacts an ~~said~~ outer edge surface of each of said plurality of ribs along said length of said support so that a space between said membrane and each adjacent pair of said ribs defines a distal portion of said lumen, said membrane constructed from a porous material that absorbs fluid that is introduced into said distal portion of said lumens of said catheter;

a dome-shaped end portion that is integrally formed with said support, said end portion closes a distal end of each of said lumens;

wherein a proximal end of each of said lumens communicate with an internal space of said catheter proximal to said support such that fluid introduced into a proximal

end of said catheter is divided among said lumens, and wherein fluid is dispensed from said catheter along an entire length of said porous membrane.

83. (Previously Presented) The catheter of Claim 82, wherein said membrane is secured to said outer edges of said ribs.

84. (Previously Presented) The catheter of Claim 82, wherein said support and said membrane are flexible.

85. (Previously Presented) The catheter of Claim 82, wherein said proximal end of said catheter comprises a tube that defines a non-infusing section of said catheter and permits said catheter to be connected to a supply of fluid.

86. (Canceled)